

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference IA/3-22352	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2005/000520	International filing date (day/month/year) 20/01/2005	(Earliest) Priority Date (day/month/year) 04/02/2004
Applicant CIBA SPECIALTY CHEMICALS WATER TREATMENTS LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 03 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C02F1/52 C02F1/56

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 552 316 A (SAVAGE ET AL) 3 September 1996 (1996-09-03) the whole document	1-22
Y	US 6 217 778 B1 (SHING JANE B. WONG ET AL) 17 April 2001 (2001-04-17) the whole document	1-22
P,X	WO 2004/015145 A (CIBA SPECIALTY CHEMICALS WATER TREATMENTS LIMITED; HUGHES, JONATHAN) 19 February 2004 (2004-02-19) the whole document	1-22
P,X	WO 2004/015121 A (CIBA SPECIALTY CHEMICALS WATER TREATMENTS LIMITED; HUGHES, JONATHAN; S) 19 February 2004 (2004-02-19) the whole document	1-22

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

4 August 2005

Date of mailing of the international search report

18/08/2005

Name and mailing address of the ISA

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Authorized officer

Pinheiro Vieira, E

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5552316	A	03-09-1996	NONE	
US 6217778	B1	17-04-2001	AU 778290 B2	25-11-2004
			AU 6395500 A	10-04-2001
			BR 0013856 A	14-05-2002
			CA 2378131 A1	15-03-2001
			EP 1218299 A1	03-07-2002
			JP 2003508221 T	04-03-2003
			MX PA02001075 A	20-08-2002
			NO 20021130 A	07-05-2002
			NZ 517480 A	30-06-2003
			WO 0117914 A1	15-03-2001
WO 2004015145	A	19-02-2004	AU 2003250185 A1	25-02-2004
			BR 0313272 A	05-07-2005
			CA 2494664 A1	19-02-2004
			WO 2004015145 A1	19-02-2004
			EP 1530646 A1	18-05-2005
WO 2004015121	A	19-02-2004	AU 2003258548 A1	25-02-2004
			BR 0313415 A	28-06-2005
			CA 2494656 A1	19-02-2004
			WO 2004015121 A1	19-02-2004
			EP 1527187 A1	04-05-2005

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To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2005/000520

International filing date (day/month/year)
20.01.2005

Priority date (day/month/year)
04.02.2004

International Patent Classification (IPC) or both national classification and IPC
C02F1/52, C02F1/56

Applicant
CIBA SPECIALTY CHEMICALS WATER TREATMENTS LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

IAP11 Rec'd PCT/PTO 28 JUL 2006
International application No.
PCT/EP2005/000520

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-22
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-22
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and / or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

Re Item V.

V.1 Reference is made to the following documents:

- 1.1 D1 : US 5 552 316 A (SAVAGE ET AL) 3 September 1996
- D2 : US 6 217 778 B1 (SHING JANE B. WONG ET AL) 17 April 2001
- D3: WO 2004/015145 A (CIBA SPECIALTY CHEMICALS WATER TREATMENTS LIMITED; HUGHES, JONATHAN) 19 February 2004
- D4: WO 2004/015121 A (CIBA SPECIALTY CHEMICALS WATER TREATMENTS LIMITED; HUGHES, JONATHAN; S) 19 February 2004

- 1.2 D1 concerns a process for separating suspended solids from a fermentation liquor in the presence of anionic and cationic polymers.
D2 discloses a process for the clarification and dewatering of industrial waste water in the presence of anionic and nonionic dispersion polymers.
These documents differ from claim 1 in that there is no mention of a heat treated fermentation liquor.

Documents D3 and D4 are intermediate documents whose content will be considered on a regional phase before the EPO. The Applicant should note that both documents disclose a process for separating suspended solids from a fermentation liquor, where the fermentation liquor has been subjected to temperatures greater than 50°C, and where the separation stage comprises the use of cationic and anionic polymers, and therefore, appear to be novelty destroying for the subject matter of claim 1.

V.2 Novelty, inventive step and industrial applicability (Art. 33 PCT):

- 2.1 The present application concerns a process for separating suspended solids from a fermentation liquor which has been subjected to a temperature of at least 50°C, and wherein the solids-liquid separation is assisted by a treatment system comprising an anionic polymer selected from natural polymers and modified natural polymers, and synthetic polymers formed from at least 50% by weight anionic monomer units.
- 2.2 As none of the above cited documents D1 or D2 discloses that the fermentation liquor has been subjected to a temperature of at least 50°C the subject matter of claim 1 appears to be novel in the sense of Art. 33(2) PCT.

- 2.3 The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 1 does not involve an inventive step in the sense of Article 33(3)PCT.

The present application differs from the prior art documents D1 or D2 in that the liquor has been subjected to a temperature of at least 50°C. The use of high temperatures in fermentation processes is a merely conventional feature in the art of fermentation, without bringing any apparent advantage to the process of claim 1. The Applicant is invited to state either by argumentation or by way of proof that the use of a temperature of at least 50°C has an advantage or superior effect in the process presently claimed when compared to the processes disclosed in the prior art documents D1 or D2.

The proposed solution in independent claim 1 thus cannot be considered inventive (Article 33(3) PCT).

- 2.4 The subject matter of claims 1-22 is industrial applicable.